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CLAIMS:

1. A method of identifying a test compound that modulates the expression of BHLHB2 gene comprising:

contacting a cell capable of expressing BHLHB2 gene with a test compound; and

5 determining the level of expression of the BHLHB2 gene in the presence of the test compound, wherein a decrease or an increase in expression of the BHLHB2 gene, as compared to the level of expression of a BHLHB2 gene in the absence of the compound, is indicative that the test compound modulates BHLHB2 gene expression.

10 2. A method of identifying a test compound that modulates the activity of a BHLHB2 protein comprising:

contacting the BHLHB2 protein with a test compound; and

determining the level of activity of the BHLHB2 protein in the presence of the compound, wherein a decrease or an increase in BHLHB2 protein activity, as compared to the
15 level of activity of the BHLHB2 protein in the absence of the compound, is indicative that the test compound modulates BHLHB2 protein activity.

3. A method of treating a subject having CAD comprising administering an effective amount of the compound identified in claims 1 or 2.

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4. Use of a compound identified in claims 1 or 2 in the preparation of a medicament for the treatment of CAD.

5. A method of treating a patient suffering from CAD comprising administering to said
25 patient an effective amount of an antibody specific for protein BHLBH2.

6. A method of treating a patient suffering from CAD comprising administering to the patient an effective amount of an antisense molecule capable of binding to the mRNA of gene BHLBH2, wherein binding of the antisense molecule to the mRNA causes a decrease in
30 expression of the protein product of gene BHLBH2.

7. A pharmaceutical composition comprising the compounds identified in claims 1 or 2, and a pharmaceutically acceptable adjuvant, diluent or carrier.

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8. A method of making a pharmaceutical composition comprising:
contacting a cell capable of expressing BHLBH2 with a test compound;
determining the level of expression of BHLBH2 in the presence of the test
5 compound; wherein a decrease or an increase in expression of BHLBH2, as compared to the
level of expression of BHLBH2 in the absence of the compound, is indicative that the test
compound modulates BHLBH2 gene expression; and
formulating the test compound that modulates BHLBH2 into a pharmaceutical
composition.
- 10 9. A method of making a pharmaceutical composition comprising:
contacting a BHLBH2 protein with a test compound;
determining the level of activity of the BHLBH2 protein in the presence of the
compound, wherein a decrease or an increase in BHLBH2 protein activity, as compared to the
15 level of activity of the BHLBH2 protein in the absence of the compound, is indicative that the
test compound modulates BHLBH2 protein activity; and
formulating the test compound that modulates BHLBH2 protein activity into a
pharmaceutical composition.
- 20 10. A method for determining if a BHLBH2 gene has an altered level of gene expression
comprising:
comparing the level of BHLBH2 gene expression in a cell from a patient having CAD
with a control cell; and
determining the level of expression of the BHLBH2 gene in both cells, wherein a
25 decrease or an increase in expression of the BHLBH2 gene, as compared to the level of
expression of the BHLBH2 gene in the control cell, indicates that the BHLBH2 has altered
gene expression.
- 30 11. A method for determining the level of a BHLBH2 protein in a CAD patient compared to
a control comprising:
comparing the protein level of BHLBH2 in a cell from a patient having CAD with a
control cell; and
determining the level of the BHLBH2 protein in both cells.

12. A method of identifying a binding partner of the BHLHB2 protein comprising:
contacting a BHLHB2 protein with a test target protein; and
determining if the test target protein can interact with the BHLHB2 protein, wherein
5 interaction of the test target protein with BHLHB2 indicates that the test target protein is a
BHLHB2 binding partner.
13. The method of claim 12, wherein the method further comprises:
contacting a gene encoding the test target protein with a test compound; and
10 determining the level of expression of the test target gene in the presence of the test
compound, wherein a decrease or an increase in test target gene expression, as compared to
the level of expression of the test target gene in the absence of the compound, is indicative
that the test compound modulates expression of the test target gene and is useful in the
treatment of CAD.
- 15 14. The method of claim 12, wherein the method further comprises:
contacting the test target protein with a test compound; and
determining the level of activity of the test target protein in the presence of the test
compound, wherein a decrease or an increase in test target protein activity, as compared to the
20 level of activity of the test target protein in the absence of the compound, is indicative that the
test compound modulates test target protein activity and is useful in the treatment of CAD.
15. The method of any of claims 13 or 14, wherein the test compound is formulated into a
pharmaceutical composition.
- 25 16. A method of treating a subject having CAD comprising administering an effective
amount of the compound identified in claims 13 or 14.
17. Use of a compound identified in of any of claims 13 or 14 in the preparation of a
30 medicament for the treatment of CAD.
18. A method of identifying other components of the CAD biochemical pathway of which
BHLHB2 is a component.

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19. A method of diagnosing CAD, or a susceptibility thereto in a subject, the method comprising:

determining the level of mRNA of BHLHB2 in a sample from a subject; and

comparing the level of mRNA of BHLHB2 in the sample with a control, wherein a

5 decrease or an increase in the level of mRNA of BHLHB2 in the sample compared to the control indicates that the subject has CAD , or a susceptibility thereto.

20. A method of diagnosing CAD or a susceptibility thereto in a subject, the method comprising:

10 determining the level of a BHLHB2 protein in a sample from a subject; and

comparing the level of BHLHB2 protein in the sample with a control, wherein a decrease or an increase in the level of the protein in the sample compared to the control indicates that the subject has CAD , or a susceptibility thereto.